SANTA CLARA COUNTY
FLOOD CONTROL
WATER DISTRICT

DISTRICT WATER UTILITY

A REVIEW OF CONSTRUCTION TAXATION AND PRICING POLICIES

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SANTA CLARA COUNTY
FLOOD CONTROL
WATER DISTRICT
516 EAST MARTHA STREET SAN JOSE, CALIFORNIA 95112
DONALD K. CURRLIN GENERAL MANAGER

January 18, 1971

Honorable Board of Directors
of Santa Clara County Flood
Control and Water District
516 East Martha Street
San Jose, California 95112

Gentlemen:

In order to effectively provide and operate essential water service facilities for the residents, industries and agriculture of Santa Clara County, it is necessary that the District's Water Utility Program be adequately and equitably financed. The present policies, together with legal limitations on groundwater charges and ever-inflating construction and operating costs, have proven to be inadequate for accomplishing the goals of the District.

The deficiencies of the present policies, together with proposals for revision, are discussed in the attached report "DISTRICT WATER UTILITY - A REVIEW OF CONSTRUCTION TAXATION AND PRICING POLICIES". The report contains additional Tables and clarifications resulting from preliminary discussions on this subject with your Honorable Board.

The objective of the proposed policies is to assign costs in accordance with benefits received from the District's water program--whether such benefits accrue from current consumptive use of water, future use, or whether such benefits relate to flood control or recreational values. These proposals are intended also to provide needed flexibility to optimize our available water resources.

I respectfully request your immediate and careful consideration of the recommendations contained herewith.

Sincerely yours,

Donald K Currlin

General Manager

Attachment

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DISTRICT WATER UTILITY - A REVIEW OF CONSTRUCTION TAXATION AND PRICING POLICIES

Donald K. Currlin
General Manager

Santa Clara County
Flood Control and Water District
January 18, 1971

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January 18, 1971

DISTRICT WATER UTILITY - A REVIEW OF CONSTRUCTION TAXATION AND PRICING POLICIES

Introduction

The major statutory powers and the objectives of the Santa Clara County Flood Control and Water District are, briefly stated, to control the flood waters and to provide a supply of water within the entire District. In addressing the area of water supply, these powers embody the obligation to meet the needs of the District on a continually expanding basis and to distribute the costs of such facilities in an equitable manner whereby the District can recover its necessary costs without losing money or making a profit.

This report contains a review of the construction program and taxing and pricing policies for the Water Utility which were put into effect when the District was designated as the agency to contract for imported water for distribution within the County of Santa Clara. At that time (1961), the water importation program was in its planning stages. Today, some nine years later, the program is in operation and construction is partially completed. Raw water has been imported since July 1, 1965, and filtration facilities at the Rinconada Water Treatment Plant became operable as of June 1967. We now have the advantage of operational experience to use as a test to determine whether or not the present policies relating to facilities to be constructed, together with tax levies and water user charges to pay for such facilities, will meet the reasonable objectives of the District. In short, we can look at the program with hindsight and greater understanding. In so doing, the discussions contained in this report will be limited to facilities and pricing policies wherein we have gained the most experience - namely in the North County Watershed draining directly into San Francisco Bay.

The Present Pricing and Construction Policy

A water pricing resolution was adopted by the Board of Supervisors on March 4, 1963. It described the facilities then contemplated to be constructed and established a taxing and pricing policy to pay for the construction, maintenance and operation of such facilities. The facilities described in that resolution are the Penitencia and Rinconada Water Treatment Plants, the Northeast Pipeline which has been replaced by the extension of the South Bay Aqueduct, the East Pipeline now known as the Evergreen Pipeline, the Milpitas Pipeline, the Central Pipeline, the Cross-Valley Pipeline which has been divided into the Cross-Valley and Almaden Valley Pipelines, and the West Pipeline. These facilities were divided into three categories, namely; water treatment, raw water transmission, and treated water transmission. The adopted policy requires that the cost of the named facilities delivering raw water and one-half of the cost of named treated water transmission facilities be recovered from a maximum five-cent county-wide tax, groundwater charges and charges for surface deliveries of untreated water. The cost of the remaining facilities, namely; the Penitencia and Rinconada Water Treatment Plants, and one-half the cost of the Milpitas, Evergreen and West Pipelines are to be recovered through sales of treated water. An additional concept of the pricing policy requires a rebate to public entities purchasing Hetch Hetchy water of up to 60 percent of the county-wide 5-cent tax collected within those public entities.

Defects in Present Construction Taxation and Pricing Policies

Generally, the present policies are defective in that they do not equitably divide the costs of the water program on the basis of benefits received and are too restrictive for a proper performance of the objectives of the District's Water Utility. Indeed, the Resolution did not speak in terms of objectives, but only in terms of cost allocations between a limited number of named facilities. Some of these defects can be specifically described as follows:

1. The Resolution is silent as to needed additional facilities not foreseen at the time of adoption, some of which have been subsequently constructed. Included in this category are the Santa Clara, Campbell and Sunnyvale Distributaries which have been completed and the Vasona Pumping Plant which is presently under construction. Other facilities which will be needed in the future for the purpose of giving service to the developing areas and to relieve the overdraft on the underground are the

Mountain View Distributary, an Almaden Valley Treated Water System, a North County Distributary to serve northerly portions of the Cities of Santa Clara and San Jose including the Alviso area, a southern loop pipeline between the Rinconada Water Treatment Plant and the Evergreen area which will serve the areas along that pipeline as well as tie the treated water delivery facilities together, the enlargement of Calero Reservoir, a treatment plant in the general vicinity of Calero Reservoir, treated water storage reservoirs at various locations, and a possible tie-in to the Hetch Hetchy line for use as an emergency supply. These facilities, needed now or in the future, are shown on Exhibit A and it should be realized that the requirements of the future may demand construction of additional treatment plants, reservoirs and distribution lines. It is now, and always will be, the responsibility of the District to construct needed facilities whenever they are proven to be economically justified. No method of charging for such facilities was set forth in the Resolution.

2. The Resolution, by naming facilities, does not contain flexibility as to change in pricing in the event of a change in the use of a facility. This defect can be illustrated by two examples. Presently, the Central Pipeline transmits only raw water. The cost of the Central Pipeline is recovered entirely by groundwater charges. It is quite possible, even probable, that at some future date the use of this pipeline will be converted to transporting treated water from both the Rinconada and Penitencia Water Treatment Plants. The present pricing policy unless modified would require that this pipeline continue to be charged to groundwater charges. The second example is the Evergreen Pipeline. Suggestions have been made that the Evergreen Pipeline be constructed in conjunction with an interim or temporary treatment plant in the Evergreen area, it being the urgent area of need for treated water. If such were to be done, one-half of the cost of the Evergreen Pipeline would be charged under the March 4, 1963 Resolution using named facilities to the cost of treated water while, in fact, it would be transporting raw water.

3. The present policy is silent and provides no guidance concerning the type of facility to be constructed for the performance of equivalent service. For example, the District could build the southern loop to serve the Evergreen area instead of the Penitencia Treatment Plant and the Evergreen Pipeline. It could build reservoirs along the treated water pipelines instead of treatment plant capacity to provide peaking requirements. It could build additional percolation ponds and raw water pipelines instead of treatment plants and treated water pipelines to relieve the overdraft on the underground. If the District were to take any of these options for providing such service, and assuming the same total construction cost in each of the above examples, the effect would be to reduce treated water charges and increase groundwater and raw water charges. The pricing of water produced by these facilities is not answered by the existing inflexible water pricing resolution.

4. The present pricing policy is a stimulus to greater subsidence problems and the threat of water quality degradation caused by seawater intrusion. Under the present pricing policy, groundwater is cheaper than treated water, and the proper integration of groundwater and treated water resources is virtually impossible. For those distributors who have the availability of both treated water and groundwater, the tendency is to use groundwater to the fullest extent possible and augment the groundwater supplies with treated water supplies only when absolutely necessary. Indeed privately-owned public utilities, being subject to rules and regulations of the Public Utilities Commission, are requested by such Commission to use the cheapest source of water in order to serve the retail customers. This results in a continued overdraft on the groundwater supply. The District's treated water prices are unable to compete with the price of groundwater, and therefore, the apparent result will be continued overuse of groundwater supplies and continued subsidence.

5. The present pricing policy results in property tax levies for other governmental purposes. The continued subsidence created by the overdraft on underground water supplies is damaging to storm drainage lines, sanitary sewer lines, bay front levees and channel levees. Channel levees and bay front levees must be raised to prevent inundation from the bay. This work is financed through property taxes. Storm drainage lines may need to be replaced or capacities enlarged through the construction of pumping plants or additional storm drainage lines. This work, too, would normally be financed through taxes. The lost capacity in sanitary sewer lines could be replaced either through duplicating existing lines or in some instances through the use of pumping facilities. Such costs would either be financed through additional property taxes or increased user charges.

6. The existing tax revenue, limited to 5 cents, is insufficient to accomplish the purpose for which the tax was originally levied. The present 5-cent tax was established in 1961 as a means of providing initial revenue to start the water importation program. During the deliberations of the County Water Commission, the first suggestion was to levy a 25-cent tax as had been done by the County Trafficways Committee. This was rejected and the suggestion was made that the level of tax be at 10 cents. This, too, was rejected. The proposal ultimately adopted specified a 5-cent tax upon the assumption that this levy would pay for the capital costs of importation facilities which would make available to the County a supply of water even though water was not transported through such facilities. The only measure of cost then available was the estimated cost to the District for its share of the South Bay Aqueduct. In 1961, it appeared that a 5-cent tax would pay the capital cost obligation of the District for its share of the South Bay Aqueduct. However, the cost of the South Bay Aqueduct has increased considerably and the 5-cent tax levy does not pay for such capital cost. In addition, the Resolution reduced this revenue to pay for such capital costs by the amount of the tax rebate to the governmental agencies importing Hetch Hetchy

water. This rebate amounts to about 20 percent of the 5-cent tax.

7. The purpose of the present ad valorem tax appears to be too restrictive and limited in scope. Its original objective of providing a facility through which water could be obtained is not subject to criticism; however, it is not broad enough in scope to pay for other objectives and benefits usually paid for by tax revenues. In addition to the general economic benefits resulting from the availability of an adequate supply of water, such benefits would include flood control benefits resulting from the local reservoir system, recreation benefits at the reservoirs and percolation ponds, benefits derived from the elimination or retarding of subsidence, and benefits of orderly growth through the availability of an adequate water supply.

8. The water pooling concept of the present pricing policy is limited in its application. At present, it is applied only to the groundwater supplies in Zone W-2 rather than the water supplies in the entire groundwater basin.

9. The present policy does not provide flexibility in the financing of new facilities. The District, in its planning and construction programs, must take a long-range view in providing water service to large areas. This requires construction of facilities which include excess capacity for future water users as well as the current water users. For example, it is standard practice in constructing wholesale transmission mains to provide a facility which will serve the area for a period of 25 years or more. The construction of a single larger facility provides the least costly capital investment over the lifetime of the facility, takes the least amount of right-of-way, and eliminates recurrent construction of parallel lines with its attendant disruption of the public. The difficulty with the present policy is that it requires the initial users to pay not only for that portion of transmission facilities

that they use but also the cost of any excess capacity built into the Treatment Plants or transmission mains for future users.

Objectives of a Water Pricing Policy

The broad objective of a proper pricing policy should be to charge the recipients of the various benefits for the benefits received.

There are several types of benefits which result from a comprehensive water program. The primary benefit is that of providing a water supply to the District so that we can optimize the methods of using the water resources available to the area. All of the facilities constructed or to be constructed should and do provide this benefit, whether the facilities are source of supply facilities such as reservoirs and import facilities; transmission facilities such as aqueducts, canals, pipelines, and percolation ponds; or the water treatment plants. Some of these facilities provide special and distinct benefits. The reservoirs provide flood control benefits in the watersheds in which they are located and provide recreational benefits such as fishing, boating, picnicking, camping, hiking, swimming, etc., to the entire County. Some of the percolation ponds also support similar recreational activities and provide a county-wide recreational benefit.

In addition to the water supply, flood control, and recreational benefits resulting from the water program, there is also a general economic benefit to either the County as a whole or the area of service of the facilities to be constructed. These benefits result from the mere construction of the facilities such as reservoirs, import lines, transmission mains and treatment plants which provide an availability for water even though such facilities are not put to use. In the construction of such facilities, excess capacity should be provided to insure the capability for a growing economy.

A final and important benefit resulting from the water program, closely allied to the general economic benefit, is the ability to retard and eliminate subsidence.

It is possible to ascertain the costs associated with some of these benefits, for example--the share of costs allocated to flood control resulting from construction and operation of the reservoirs and to recreation associated with the reservoirs, and the percolation ponds can be ascertained through application of recognized cost allocation formulas. Some aspects of cost related to the elimination of subsidence such as the cost of water used to replace the accumulated overdraft can be easily measured. It becomes more difficult, however, to allocate the remaining costs between water supply benefits and the economic benefits.

Whenever costs associated with specific benefits are clearly and easily measurable they should be charged to the beneficiaries. Those beneficiaries who receive a supply of water for consumptive use (use of water for private recreational purposes is considered a consumptive use) should pay for such benefits on the basis of a properly allocated water user charge. Those who receive benefits from the other elements of the water program should be charged on the basis of taxes in the areas of benefit. Where there is a question as to the identity of the beneficiary or the method of measuring the benefit, the allocation of costs should remain flexible and be determined in accordance with accepted practices and sound judgments.

As a means of accomplishing the aforementioned objectives, the pricing policy should embody the following concepts:

1. A Water Pooling Concept - The water pooling concept is, to a limited extent, embodied in the present pricing policy. Under this concept water is considered to be mixed irrespective of its source and cost. The water is considered as a single commodity whether it be (a) water provided without benefit of local conservation facilities or importation, (b) water made available through our local conservation reservoirs, (c) water which is imported from the South Bay Aqueduct at present and will be imported through the Pacheco Aqueduct upon completion of the San Felipe Project, or (d) water from other sources such as reclaimed water, desalinized water, or weather modification.

   The concept should be retained, but the configuration of the groundwater basin which constitutes the common pool should be re-examined and more accurately described. From a geological and hydrological standpoint, the groundwater basin receiving runoff from streams in Northwest, North Central, Central and East Zones of the District is a common pooling basin. Local conservation and distribution facilities and the importation of water have in the past, and will in the future, aid in equalizing the benefits within this geographic area.

2. A Water Facilities Cost Pooling Concept - This concept is considered a basic requirement of optimum water resources management, since all facilities contribute to the common benefit.

   As has been pointed out, there is a possibility that the Central Pipeline now transmitting raw water will in the future be used for the transmission of treated water; that treated water could be served to the Evergreen area by construction of a southern loop rather than the Penitencia Treatment Plant and the Evergreen Pipeline; and that the District could build percolation ponds and raw water pipelines instead of treatment plants and treated water pipelines for service to various areas and to relieve the overdraft on the underground. It seems obvious that any transmission facility, whether it be canal or pipeline, or whether it be carrying raw water or treated water, is constructed to deliver water to the point of use and thereby augment facilities provided by nature for the transmission of water. The same is true of treatment plants which are a substitute for the filtering process provided by the underground basin. Any aqueduct or treatment plant is constructed to augment or supplement the natural transmission and filtration capability of our underground basin. The location of treatment plants along those pipelines is, or should be, determined by the least expensive overall cost in providing adequate water service. The "pooling of costs of facilities" concept would eliminate from present practices the reference to named facilities and would charge instead on the basis of common benefit.

3. A Water Resources Management Concept - This concept would allow the District to manage its total water supplies whether underground or surface delivered, to obtain the maximum utilization of the water resources of the area to the advantage of the present and future populations of the County. From an external standpoint, it is desirable that our taxes and charges be competitive with those of other agencies performing similar services. This end result is desirable to attract various types of

commercial and industrial activity to provide a diversified employment force and a well balanced economy. This concept would, through taxing and pricing, provide management tools to establish competitive rates and to optimize the benefits received by the use of the water resources of the area.

The Implementation of the Proposed Water Taxing and Pricing Policy

To meet the objectives of a proper taxing and pricing policy, the following actions should be taken:

1. Establish zones encompassing the common groundwater basins benefited by conservation, import, and recharge of water. Such area would include the basins of all watersheds feeding into a common underground basin by natural means or as aided by construction of importation, distribution and recharge facilities. In the North County area the zone that would constitute the area where water is pooled is shown on Exhibit B.

   This zone would be a water charge zone in which charges should be levied on all groundwater extractions. The measure of this charge is determined in recommendations 6 and 7.

2. Establish a taxing zone to reflect the area which is capable of being served or will, in the near future, be served by District-constructed water facilities. As new water facilities are added to serve new areas, the boundaries of the zone would, of necessity, be amended accordingly. The recommended zone area is shown on Exhibit C.

   Note: If the present practice of levying ad valorem taxes instead of groundwater charges in the area south of Metcalf Road is to be continued, two taxing zones should be established (north and south of Metcalf Road) to encompass the area shown on Exhibit C.

3. Levy a county-wide importation tax to pay for the economic benefits to the County as a whole for water availability. The measure of this tax would be the same measure as being applied under the present policy for the capital cost of the water importation facilities except that it would not be limited. Water importation facilities related to this tax would be the South Bay Aqueduct (State of California), the San Felipe Project (Bureau of Reclamation), and the Hetch Hetchy System (San Francisco).

The philosophy of this tax is that these facilities assure to the County an adequate supply of water simply by their existence and availability.

Capital costs of the South Bay Aqueduct are determinable from bills of the Department of Water Resources and present no problem in projecting costs.

The Bureau of Reclamation, in its San Felipe contract negotiations, is proposing a per-acre-foot cost for conveyance (equivalent to capital, maintenance and operating cost of the South Bay Aqueduct), for storage (equivalent to the State's Delta Water Charge) and for power as it relates to both conveyance and storage. The Bureau of Reclamation will be able to designate the portion of the conveyance cost attributable to capital expenditures. The Bureau's method of charging will provide an easily determinable method for accurately projecting the capital cost component of the Federal importation facilities.

The method of measuring the capital cost component of the Hetch Hetchy System is much more difficult. The Hetch Hetchy Aqueduct may not have the same degree of permanent availability as is found in the South Bay or Pacheco Aqueducts. Hetch Hetchy contracts terminate in the early 1980's while the State and Federal contracts do not terminate until after year 2020 and contain provisions for renewal. Furthermore, there is no firm capacity reserved for Santa Clara County in the Hetch Hetchy System, and a recent report to the San Francisco Water Department recommends deleting Santa Clara County, except for the City of Palo Alto, from the service area of the Hetch Hetchy System. The San Francisco system imports water from three sources - Calaveras Reservoir, the Sunol Filter Gallery and Yosemite Park. Some of the system has been completely paid for while other parts are being paid off on a twenty-year amortization schedule. Expenditures have been made in the Hetch Hetchy Aqueduct System to enhance power generation and for other uses which should be but are not easily separated from the water supply costs. In view of the above, an accurate and equitable method of computing the capital cost component seems uncertain - as does the availability of the aqueduct to Santa Clara County. Even though such uncertainties exist, the present existence and use of the Hetch Hetchy Aqueduct does provide an economic benefit to the District and should be paid for by a county-wide tax which would equate to the tax rebate to those public agencies importing water through the Hetch Hetchy System. Since the capital costs of the Hetch Hetchy System, and the economic benefits resulting therefrom, are not easily determined and are subject to question, it is recommended that the tax rebate be determined in accordance with the presently accepted practice embodied in the present pricing policy and the amount of such rebate be added to the annual capital cost payments of the South Bay and Pacheco Aqueducts to determine the total county-wide tax levy for construction of import facilities.

4. Levy a county-wide tax to pay for the recreation benefits which are available from use by all County residents of the District's reservoirs and percolation ponds. This tax would be determined by appropriate allocations of the capital costs and maintenance and operations costs of all District-owned reservoirs and percolation ponds opened for recreation activities.

5. Levy a tax within the flood control zones for the flood control benefits resulting from the construction, operation and maintenance of the District's reservoirs. This tax would also be determined by following the same cost allocation procedure used for allocating costs to recreation.

6. Levy a basic water user charge to recover costs incurred for the benefit of current water users, i.e., costs related to consumptive use of water which costs include:

   a) Water purchased from the State of California or the Bureau of Reclamation. This cost would be measured by the State's Delta Water Charge and the Bureau's prospective Storage Charge.

   b) Maintenance and operating costs of import facilities. This cost would be measured by cost data supplied by the State and Federal Governments.

c) Maintenance and operating costs of all District-owned and constructed facilities - determined by actual expenditures for such purposes from the District's accounting records.

This user charge would be applied to all groundwater extractions in the water charge zone and to all surface diversions of water conserved or imported by the District. The costs recovered by the user charge are made necessary because of the actual use of facilities constructed whether they be import or local conservation and distribution. Therefore, they should be paid for by the current water users.

7. The remaining expenditures that would be made in providing a supply of water result from construction of local facilities and consist of the capital cost of such items as local conservation reservoirs, aqueducts, regulating reservoirs, percolation ponds, and treatment plants. In such facilities some are deemed to contain excess capacity, while others are not. For example, the conservation reservoirs, our existing raw water aqueducts, and the percolation ponds are constructed to provide capacity for large flows required in years of heavy local rainfall. The capacity constructed into such facilities to handle these peak loads is necessary for the conservation and use of local water on a current basis. The cost of these facilities should, therefore, be charged to water users.

On the other hand, additional capacity built into treated water aqueducts, regulating reservoirs, and treatment plants is provided to assure availability of a water supply to undeveloped land in future years. Such excess capacity provides an economic benefit to such lands. Therefore, the excess capacity provided in facilities which produce or transmit a supply of treated water could, as an economic benefit, be properly charged to taxes within the service area. The resulting recommendation is that the cost of such facilities be allocated between excess capacity and current use--with the costs allocated to current use being charged to the water users and the costs of excess capacity being charged to taxes within the service area. The combination of user charges and tax revenues would provide flexibility for the construction of needed facilities which presently cannot be supported with reasonable user charges during the early years of use. Tax revenues for such purposes would be limited to that required to fund the repayment of the capital costs of any excess capacity provided in such facilities.

8. Levy a tax in the service area zone to pay the actual costs of water purchased to replenish our depleted underground supply - to retard and eliminate subsidence as well as provide an emergency supply in the underground reservoir for use during any unforeseen emergency. As stated earlier, the elimination of subsidence is of economic benefit to the area of service; and, as an economic benefit, taxes should be levied to pay for this cost. The same reasoning applies to the providing of an emergency supply of water. This cost would be measured by the State's Delta Water Charge and the Bureau's prospective Storage Charge, together with the related power costs.

9. Levy a treated water surcharge, which, when added to the basic water-user charge, would constitute the price of potable water delivered by the District from any of its facilities supplying potable water. This recommendation adopts the water resources management concept, and provides the necessary economic tool to obtain maximum utilization of our available water resources. The charge should be established at an amount that would prevent an overuse or under use of the groundwater basin. For any given rate period the charge could be lowered to discourage the use of groundwater supplies--or raised to encourage such use--while at the same time maintaining an approximate equality of total prices to the wholesale customers for groundwater and treated water.

   Since the treated water surcharge is primarily an economic balancing tool, such revenue should be used to provide a proper balance between service area taxes and user charges, as well as establishing the proper relationship between treated water and groundwater charges.

Since the revenues derived from the treated water surcharge would be generated within the service area these sums could be used to lower the basic water charge or to reduce the service area taxes. Such revenues could also be used to create or maintain a reserve to level the tax rates within a given rate period and to provide for unforeseen contingencies, or for minor construction.

10. Set water charges based on the above recommendations at a stable rate for 5-year rate periods.

A summary of the application of taxes and charges is found on the following chart.

Item No.	Name of Item	County Wide Tax	Service Area Zone Tax	Basic Water Charge	Flood Control Zone Taxes
3	Capital Cost Import Facilities	X			
4	Recreation Benefit (1)	X			
5	Flood Control Benefit (2)				X
6a	Water Purchases (3) Import Facilities			X	
6b	Maintenance & Operation Import Facilities			X	
6c	Maintenance & Operation Local Facilities			X	
7	Capital Cost Local Facilities		X (4)	X	
8	Basin Replenishment (5)		X		
9	Treated Water Surcharge			X	

(1) Reservoirs and certain percolation facilities
(2) Reservoirs
(3) State Delta Water Charge and USBR Storage Charge
(4) Limited to Allocated Cost of Excess Capacity
(5) Includes Delta Water Charge and Variable O & M costs only

Agricultural Water Prices

Any modification of the taxing and pricing policy of the District raises the question of changes in pricing of agricultural water. Under the present statutory authority, agricultural groundwater charges are limited to $8.00 per acre-foot. Surface delivered water is equal to the groundwater charge plus a watermaster charge of $2.50 per acre-foot. These prices do not cover costs and all deficiencies are absorbed by municipal and industrial water users. If there were no reduced rates for agricultural water users under the present policy (i.e., if agricultural and M & I users paid the same rate), agricultural rates would go up about $17.30 per acre-foot while M & I rates would be reduced by only $3.70 per acre-foot.

The water resources management concept contained in this report (page 10) states that our taxes and charges should be competitive with other water supply agencies. Preferred rates for agricultural water users are not uncommon - whether granted by the Federal Government or local agencies. In order to maintain the present competitive status for Santa Clara County's agricultural water users, it is recommended that the $8.00 per acre-foot limitation be retained. However, watermaster charges should be increased to cover actual costs of the service provided solely for the benefit of agricultural users. If the $30.00 per acre-foot limitation on municipal and industrial water requires an increase, then consideration should be given to modification of the agricultural limitation.

Effect of Proposed Pricing Policy - Alternatives and Comparisons

The effect of the proposed pricing policy on water charges and tax rates will vary with the rate of increases of assessed value, the construction cost of facilities, the time facilities are constructed, total water use, the amount of treated water sold, possible variations in bills to be received from the Department of Water Resources, and the manner in which the treated water surcharge is applied as an offset to the service area taxes or the basic water charge. In order to provide an estimate of tax rates and charges under these varying conditions during the next rate period, the appendix to this report includes certain tables in which the following assumptions, unless otherwise noted, are made:

a) Timing and costs for capital improvements are as shown on Table I.

b) Capital costs are funded from bonds amortized over 40 years at a 7% interest rate.

c) Anticipated assessed valuations for the entire District and Zone W-1 are as shown on Table II.

d) Total water use and sales of treated water are as shown on Table III.

e) That $20.00 per acre-foot is the average cost resulting from operation and construction of wells and would be one measure of the treated water surcharge.

To provide a comparison of the present and proposed pricing policy and its tax rates and water charges with other comparable agencies, Table IV is included showing the rates and charges of such water agencies in the Bay Area as well as the Metropolitan Water District of Southern California. Table IV shows the District's existing property tax rates to be less than half of other comparable agencies, with the present wholesale price of treated water ($64.60 per acre-foot) in the median area of those agencies for which information is applicable. The highest tax rate alternative, of the proposed pricing policy, 11.54¢ shown in Tables VIII and X, is about three fourths of the tax rate of the East Bay Municipal Utility District which has the lowest tax rate of any comparable agency. Other alternatives of the proposed pricing policy, as shown in Tables IX, XIa and XIb, produce lower tax rates.

Tables V through XI show the District's present pricing policy and some of the alternatives that are available under the proposed pricing policy for the ensuing 5-year rate period, 1971-72 through 1975-76. These tables are summarized as follows:

a) Table V - The Present Pricing Policy. This table shows a county-wide tax rate limited to 5¢ for partial payment of the capital cost of import facilities. There is no service area tax. The 5-year average of groundwater charges is estimated to be $28.95 per acre-foot and the treatment and distribution component is estimated at $58.38 per acre-foot. The cost of treated water would be the total of the latter two amounts or $87.33 per acre-foot. This compares with the current established price of $64.60 per acre-foot.

b) Table VI - The Present Pricing Policy, with a 2¢ Service Area Tax to Reduce the Treatment and Distribution Component. This table shows the taxing structure used in Fiscal Year 1970-71. If this taxing structure and the application of tax revenues were to be maintained during the next five years, the groundwater charges would again be $28.95 per acre-foot while the treatment and distribution component would be $46.49 per acre-foot resulting in a total price for treated water of $75.44 per acre-foot. Again, this price exceeds that being presently charged.

c) Tables VIIa, b and c. These tables show the effect of the adoption of the Water and Facilities Cost Pooling concepts contained in the proposed pricing policy, but with existing legal limitations on groundwater charges (now limited to $30.00 per acre-foot for M & I water), the existing taxing structure, namely a 5¢ county-wide tax and a 2¢ service area tax, and with the price of treated water set at its approximate present level of $65.00 per acre-foot. The result and effect of these limitations shows that the capital improvements set forth in Table I would be restricted to the construction of the Mountain View Distributary, the Penitencia Water Treatment Plant, the Evergreen Pipeline and Reservoir and the Milpitas Pipeline. Facilities shown in Table I which could not be constructed are all percolation facilities, Calero Reservoir, treatment plant expansions, Stevens Creek Pipeline #4, and all facilities directly related to the San Felipe Project.

Table VIIa presents results of an economic analysis of facilities now in existence together with the addition of the Mountain View Turnout. The table indicates resultant cumulative construction reserves.

Table VIIb adds the Penitencia Water Treatment Plant, the Evergreen Pipeline and the Evergreen Reservoir, with reduced cumulative construction reserves.

Table VIIc adds the Milpitas Pipeline and shows that the cumulative construction reserve is almost eliminated.

d) Table VIII - This table shows the proposed pricing policy with the treated water surcharge established at $20.00 per acre-foot with the revenue from the surcharge applied to reduce the basic water charge. Under this alternative the estimated 5-year average for county-wide tax rates would be 6.26¢ for full payment of the capital costs of all import facilities and recreation benefits. The service area tax would be an estimated 5.28¢ which would pay for the full costs of excess capacity in the service area facilities and for replenishment of the groundwater basin resulting in a total tax within the service area of 11.54¢. The groundwater charge would be $28.57 per acre-foot and the cost of treated water would be $48.57 per acre-foot.

e) Table IX - This alternative of the proposed policy shows the results of applying the $20.00 treated water surcharge used in Table VIII to reduce service area taxes. Under this alternative the county-wide tax rate would remain the same - at 6.26¢. The 5-year average for the service area tax would be 1.91¢ for a total tax within the service area of 8.17¢. The groundwater charge would be $33.00 per acre-foot and the total price for treated water would be $53.00 per acre-foot. Since M & I groundwater charges are now legally limited to $30.00 per acre-foot the application of this alternative would require a change in our legislation to allow increases in groundwater charges.

f) Table X - Under this alternative the basic water charge is set at a rate equivalent to the present maximum available groundwater charge of $30.00 per acre-foot. As in Table VIII, the county-wide tax rate of 6.26¢ would pay the total cost of the import facilities on recreation benefits and the added service area tax of 5.28¢ would pay for all costs allocated to excess capacity and groundwater replenishment within the service area. Revenues developed from the application of the maximum groundwater charge and the treated water surcharge of $20.00 per acre-foot are shown as a cumulative construction reserve. This reserve could be eliminated and applied to reduce taxes in the service area. If this were done, the service area taxes would be reduced by about 1¢ during each of the 5 years.

g) Tables XIa and b - Under these alternatives of the proposed pricing policy, groundwater charges are set at the existing rate of $29.00 per acre-foot and at the legal limitation of $30.00 per acre-foot. In both alternatives the treated water surcharge is set at $35.00 per acre-foot so that the total price of treated water would be roughly equivalent to the current price of $64.60 per acre-foot. In both of these alternatives the revenues from the treated water surcharge are applied to reduce service area taxes.

Table XIa shows the county-wide 5-year average tax rate remaining at 6.26¢ with the service area tax at 2.43¢ or a total tax within the service area of 8.69¢. Groundwater charges would be $29.00 per acre-foot and the price of treated water would be $64.00 per acre-foot.

Table XIb results in the same county-wide tax of 6.26¢ but a service area tax of 1.67¢ for a total within the service area of 7.93¢. Groundwater charges would be $30.00 per acre-foot and the price of treated water would be $65.00 per acre-foot.

In all of the alternatives outlined on Tables VIII, IX and XI, revenues from the treated water surcharge have been applied in total to either the basic water charge or as a reduction in service area taxes. Other alternatives could be produced which would apportion these revenues to both the basic water charge or service area taxes under the proposed pricing policy.

Conclusion

The formulation of a water taxing and pricing policy is fundamental to the District's activities. The policy should eliminate the restrictive elements of the present pricing policy and should remain flexible so any item not considered herein could, at a later time, be included within the framework of the concepts and recommendations contained herein. For example, if significant differences in water service pressure to treated water customers were to develop in the future, the treated water surcharge could be adjusted to reflect such differences.

The District is obliged to construct the necessary facilities to serve all entities within the District. Revenue which comes from taxes and charges within these entities must be provided to pay for such construction and should be equitable to all concerned. The recommendations contained in this report seek to accomplish this end basing the payment for services rendered on the benefits received from the water utility program.

Since the problem is complex and should have thorough review and analysis, it is suggested that this report be referred to the Santa Clara County Water Commission for discussion, comment, and recommendation. It should also be referred to the treated water customers, because changes in the pricing policy will require amendments to existing water supply contracts.

TABLE Ia

SUMMARY OF CAPITAL IMPROVEMENTS

1971-72 through 1980-81

SPECIAL NOTE: Capital improvements used in the analysis should not be considered a finalized construction program. The facilities set forth in this table do, however, constitute a construction program which would provide a complete water supply to the service area and proper basin water resources management. Further study is needed to determine whether or not these facilities are the least costly alternatives.

Summary of Expenditures by Type

	Percolation Facilities	Treatment Plants	Distribution Facilities	Reservoirs	Total
1971-72 through 1975-76	$2,105,000	$ 6,000,000	$18,750,000	$1,275,000	$28,130,000
1976-77 through 1980-81	1,640,000	7,720,000	7,430,000	0	16,790,000
Total	$3,745,000	$ 13,720,000	$26,180,000	$1,275,000	$44,920,000

Summary of Expenditures by Projects

Percolation Facilities	$ 3,745,000
Penitencia Water Treatment Plant - Stage I	6,000,000
Penitencia Water Treatment Plant - Stage II	3,860,000
Rinconada Water Treatment Plant - Stage III	3,860,000
Mountain View Turnout	345,000
Evergreen Pipeline & Reservoir	5,655,000
Milpitas Pipeline	1,440,000
Almaden Valley Pipeline, Unit II	8,200,000
Stevens Creek Pipeline, Unit IV	3,670,000
Cross Valley Pipeline	6,870,000
Calero Reservoir	1,275,000
	$ 44,920,000

TABLE Ib
CAPITAL IMPROVEMENTS
1971-72 through 1975-76

Expenditures by Fiscal Years

FISCAL YEAR	PROJECT	CAPITAL COST	TOTAL COST FOR YEAR
1971-72	Percolation Facilities - Central and West Areas (Land)	$ 125,000*	
	Evergreen Pipeline	1,200,000	
	Mountain View Turnout	345,000	
	Stage I - Penitencia WTP	1,500,000	$3,170,000
1972-73	Percolation Facilities - Central and West Areas (Land)	$ 130,000*	
	Calero Reservoir	425,000	
	Evergreen Pipeline	2,920,000	
	Milpitas Pipeline	420,000	
	Stage I - Penintencia WTP	4,500,000	$8,395,000
1973-74	Percolation Facilities - Central and East Areas (Land)	$ 520,000	
	Calero Reservoir	425,000	
	Almaden Valley Pipeline II	2,395,000	
	Milpitas Pipeline	1,020,000	
	Evergreen Reservoir	440,000	$4,800,000
1974-75	Percolation Facilities - West and South Areas (Land)	$ 510,000	
	Almaden Valley Pipeline II	5,805,000	
	Calero Reservoir	425,000	
	Evergreen Reservoir	1,095,000	$7,835,000
1975-76	Percolation Facilities - East & South Areas (Land & Construction)	$ 820,000	
	Cross Valley Pipeline	1,910,000	
	Stevens Creek Pipeline IV	1,200,000	$3,930,000
	Total for 5-year period		$28,130,000

*Financed out of current revenues.

TABLE Ic
CAPITAL IMPROVEMENTS
1976-77 through 1980-81

Expenditures by Fiscal Years

FISCAL YEAR	PROJECT	CAPITAL COST	TOTAL COST FOR YEAR
1976-77	Percolation Facilities - Central Area (Construction)	$ 305,000	
	Cross Valley Pipeline	4,960,000	
	Stevens Creek Pipeline IV	2,470,000	
	Stage II - Penitencia WTP	965,000	
	Stage III - Rinconada WTP	965,000	$9,665,000
1977-78	Percolation Facilities - Central & West Areas (Construction)	$ 315,000	
	Stage II - Penitencia WTP	2,895,000	
	Stage III - Rinconada WTP	2,895,000	$6,105,000
1978-79	Percolation Facilities - Central Area	$ 330,000	$ 330,000
1979-80	Percolation Facilities - West Area	$ 340,000	$ 340,000
1980-81	Percolation Facilities Central Area	$ 350,000	$ 350,000
	Total 5 -year period		$16,790,000

TABLE II
NET ANTICIPATED ASSESSED VALUATIONS
in $1,000's

FISCAL YEAR	DISTRICT(1)	ZONE W-1	ZONE W-3	HETCH HETCHY AREAS	NORTHWEST ZONE	CENTRAL ZONE	EAST ZONE
1971-72	$2,839,159	$2,320,602	$17,000	$ 724,100	$604,577	$ 936,603	$ 408,731
1972-73	2,970,901	2,424,019	20,900	764,300	628,760	1,011,532	449,604
1973-74	3,102,643	2,527,435	25,000	805,500	633,910	1,092,454	494,565
1974-75	3,234,385	2,630,851	29,200	846,400	680,067	1,179,851	544,021
1975-76	3,366,127	2,734,268	34,000	887,000	707,270	1,274,239	598,423
1976-77	3,497,869	2,837,684	39,200	927,800	733,816	1,377,391	678,738
1977-78	3,629,611	2,941,100	45,000	968,900	760,362	1,480,543	759,054
1978-79	3,761,353	3,044,517	51,000	1,010,300	786,908	1,583,696	839,369
1979-80	3,893,095	3,147,933	56,500	1,051,500	813,454	1,686,848	919,685
1980-81	4,024,837	3,251,349	62,500	1,092,700	840,000	1,790,000	1,000,000

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(1) Annual increase varies from 4.64% in 1972-73 to 3.38% in 1980-81.

TABLE IIIa

WATER DEMANDS 1971-72 through 1980-81

AREA/FISCAL YEAR	Ground Water AG	Surface AG	Total AG	Ground Water M&I	Treated Water M&I	Hetch Hetchy	Other Surface M&I	Total M&I	Total Water Use
Evergreen Pipeline									
1971-72	4,000	1,630	5,630	17,050	0	0	0	17,050	22,680
1972-73	3,660	1,520	5,180	18,200	0	0	0	18,200	23,380
1973-74	3,360	1,420	4,780	14,034	5,316	0	0	19,350	24,130
1974-75	3,070	1,340	4,410	12,531	7,719	0	0	20,250	24,660
1975-76	2,800	1,250	4,050	12,247	9,003	0	0	21,250	25,300
1976-77	2,540	1,180	3,720	11,791	10,309	0	0	22,100	25,820
1977-78	2,310	1,110	3,420	11,241	11,659	0	0	22,900	26,320
1978-79	2,090	1,060	3,150	10,708	13,042	0	0	23,750	26,900
1979-80	1,890	1,010	2,900	10,131	14,469	0	0	24,600	27,500
1980-81	1,710	990	2,700	9,415	15,935	0	0	25,350	28,050
Milpitas Pipeline									
1971-72	4,740	830	5,570	7,250	0	5,800	0	12,750	18,320
1972-73	4,510	720	5,230	8,400	0	6,100	0	13,600	18,830
1973-74	4,290	620	4,910	6,367	(1,633)	6,400	0	14,400	19,310
1974-75	4,090	540	4,630	4,719	6,131	4,300	0	15,150	19,780
1975-76	3,870	460	4,330	4,304	7,896	3,800	0	16,000	20,330
1976-77	3,660	380	4,040	3,839	9,261	3,600	0	16,700	20,740
1977-78	3,450	320	3,770	3,274	10,426	3,700	0	17,400	21,170
1978-79	3,230	260	3,490	2,908	11,392	3,800	0	18,100	21,590
1979-80	3,010	220	3,230	1,501	13,439	3,900	0	18,750	21,980
1980-81	2,780	190	2,970	875	14,425	4,100	0	19,400	22,370
No. County Distributary									
1971-72	6,110	750	6,860	16,350	0	0	0	16,350	23,210
1972-73	6,100	700	6,800	16,900	0	0	0	16,900	23,700
1973-74	6,090	660	6,750	17,500	0	0	0	17,500	24,250
1974-75	6,080	610	6,690	18,000	0	0	0	18,000	24,690
1975-76	6,070	580	6,650	18,600	0	0	0	18,600	25,250
1976-77	6,060	540	6,600	19,100	0	0	0	19,100	25,700
1977-78	6,050	500	6,550	19,650	0	0	0	19,650	26,200
1978-79	6,040	450	6,490	20,100	0	0	0	20,100	26,590
1979-80	6,030	410	6,440	20,600	0	0	0	20,600	27,040
1980-81	6,020	270	6,290	21,100	0	0	0	21,100	27,390

TABLE III a (continued)

AREA/FISCAL YEAR	Ground Water AG	Surface AG	Total AG	Ground Water M&I	Treated Water M&I	Hetch Hetchy	Other Surface M&I	Total M&I	Total Water Use
Southern Loop									
1971-72	5,770	270	6,040	14,500	0	0	0	14,500	20,540
1972-73	5,460	250	5,710	15,500	0	0	0	15,500	21,210
1973-74	5,190	230	5,420	16,600	0	0	0	16,600	22,020
1974-75	4,920	210	5,130	17,600	0	0	0	17,600	22,730
1975-76	4,640	190	4,830	18,700	0	0	0	18,700	23,530
1976-77	4,370	160	4,530	19,800	0	0	0	19,800	24,330
1977-78	4,110	140	4,250	20,900	0	0	0	20,900	25,150
1978-79	3,840	120	3,960	22,000	0	0	0	22,000	25,960
1979-80	3,520	100	3,620	23,000	0	0	0	23,000	26,620
1980-81	3,260	90	3,350	24,200	0	0	0	24,200	27,550
Rinconada Area									
1971-72	5,260	800	6,060	39,234	30,566	20,400	13,000	103,200	109,260
1972-73	5,170	740	5,910	37,372	35,128	20,700	13,000	106,200	112,110
1973-74	5,090	690	5,780	42,300	32,750	20,850	13,000	108,900	114,680
1974-75	5,030	630	5,660	41,593	35,457	20,950	13,000	111,000	116,660
1975-76	4,990	570	5,560	40,845	38,155	21,000	13,000	113,000	118,560
1976-77	4,910	510	5,420	40,191	40,809	21,000	13,000	115,000	120,420
1977-78	4,870	450	5,320	39,352	43,548	21,000	13,000	116,900	122,220
1978-79	4,800	390	5,190	38,251	46,149	21,000	13,000	118,400	123,590
1979-80	4,740	330	5,070	36,960	48,740	21,000	13,000	119,700	124,770
1980-81	4,650	270	4,920	35,898	51,302	21,000	13,000	121,200	126,120
Central San Jose									
1971-72	3,020	170	3,190	51,100	0	0	0	51,100	54,290
1972-73	2,750	150	2,900	52,900	0	0	0	52,900	55,800
1973-74	2,480	130	2,610	54,400	0	0	0	54,400	57,010
1974-75	2,260	110	2,370	56,000	0	0	0	56,000	58,370
1975-76	2,030	90	2,120	57,300	0	0	0	57,300	59,420
1976-77	1,810	70	1,880	58,800	0	0	0	58,800	60,680
1977-78	1,610	50	1,660	60,000	0	0	0	60,000	61,660
1978-79	1,450	30	1,480	61,400	0	0	0	61,400	62,880
1979-80	1,260	10	1,270	62,600	0	0	0	62,600	63,870
1980-81	1,130	0	1,130	64,000	0	0	0	64,000	65,130

TABLE IIIa (continued)

AREA/FISCAL YEAR	Ground Water AG	Surface AG	Total AG	Ground Water M&I	Treated Water M&I	Hetch Hetchy	Other Surface M&I	Total M&I	Total Water Use
Total - Above Areas									
1971-72	28,900	4,450	33,350	145,184	30,566	26,200	13,000	214,950	248,300
1972-73	27,650	4,080	31,730	148,372	35,128	26,800	13,000	223,300	255,030
1973-74	26,500	3,750	30,250	148,421	42,479	27,250	13,000	231,150	261,400
1974-75	25,450	3,440	28,890	150,443	49,307	25,250	13,000	238,000	266,890
1975-76	24,400	3,140	27,540	151,996	55,054	24,800	13,000	244,850	272,300
1976-77	23,350	2,840	26,190	153,521	60,379	24,600	13,000	251,500	277,690
1977-78	22,400	2,570	24,970	154,417	65,633	24,700	13,000	257,750	282,720
1978-79	21,450	2,310	23,760	155,367	70,583	24,800	13,000	263,750	287,510
1979-80	20,450	2,080	22,530	155,781	75,569	24,900	13,000	269,250	291,780
1980-81	19,500	1,810	21,360	156,488	80,662	25,100	13,000	275,250	296,610

TABLE IIIb

ESTIMATED TREATED WATER DEMAND BY CONTRACTORS
(used in analysis of proposed pricing policy)

	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Mtn. View	---	200	450	600	800	1,000	1,180	1,330	1,470	1,600
Cal. Water	4,294	4,588	4,882	5,176	5,470	5,764	6,058	6,352	6,646	6,940
Santa Clara	2,000	2,240	2,460	2,760	3,000	3,200	3,500	3,800	4,000	4,200
Cupertino	1,275	1,500	1,700	1,900	2,100	2,200	2,300	2,390	2,480	2,550
Campbell	1,080	1,107	1,135	1,163	1,192	1,222	1,252	1,284	1,316	1,349
Sunnyvale	3,400	3,600	3,800	4,000	4,200	4,500	4,800	5,000	5,300	5,600
SJWW (R)	18,517	21,893	18,323	19,858	21,393	22,923	24,458	25,993	27,528	29,063
SJWW (P)	---	---	6,949	8,790	10,629	12,470	14,310	16,154	17,999	19,840
San Jose	---	---	2,780	3,060	3,370	3,700	4,075	4,480	4,930	5,420
Milpitas	---	---	---	2,000	2,900	3,400	3,700	3,800	3,900	4,100
TOTAL	30,566	35,128	42,479	49,307	55,054	60,379	65,633	70,583	75,569	80,662

TABLE IV
TAX RATES AND M&I WATER CHARGES
LEVIED BY COMPARABLE WATER SUPPLY AGENCIES

	1970-71 Ad Valorem Tax Rate	Treated Water-$/AF		Raw Surface Water Charge	M&I Ground Water Charge (Pump Tax)
		Wholesale	Retail*		
Metropolitan Water District	$0.17	$49-$53	N/A	$44.00	N/A
Alameda County Water District	0.17	N/A	$70-$134	N/A	$10.00
East Bay Municipal Utility District	0.15	N/A	$52-$81	N/A	N/A
Contra Costa County Water District	0.155 (1)	N/A	$130-$188	$16-$18.50	N/A
Alameda County Flood Control and Water District (Zone 7)	0.17	$84.00	$87-$140 (3)	N/A	N/A
Santa Clara County Flood Control and Water District	$0.07 (2)	$64.60 (4)	$70-$165 (3)	$31.50	$29.00

* exclusive of connection charges
(1) 4¢ District Tax, 11.5¢ Zone Tax
(2) 5¢ District Tax, 2¢ Zone Tax
(3) Retail agencies receiving District water
(4) Includes Treatment and Distribution component ($46.00) and raw water charge

TABLE V

Present Pricing Policy with 5¢ County-Wide Tax

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0500	0	$28.32	0	0	0	$49.76	
1972-73	0.0500	0	29.08	0	0	0	53.32	
1973-74	0.0500	0	28.01	0	0	0	65.04	
1974-75	0.0500	0	28.28	0	0	0	61.70	
1975-76	0.0500	0	30.90	0	0	0	58.22	
5-Year Average	$0.0500	0	$28.95	0	0	0	$58.38	

* Either groundwater charge or raw water component of total treated water charge.

TABLE VI

Present Pricing Policy with 5¢ County-Wide Tax and 2¢ Service Area Tax

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0500	$0.0200	$28.32	0	0	0	$34.58	
1972-73	0.0500	0.0200	29.08	0	0	0	39.52	
1973-74	0.0500	0.0200	28.01	0	0	0	53.14	
1974-75	0.0500	0.0200	28.28	0	0	0	51.02	
1975-76	0.0500	0.0200	30.90	0	0	0	48.28	
5-Year Average	$0.0500	$0.0200	$28.95	0	0	0	$46.49	

* Either groundwater charge or raw water component of total treated water charge.

TABLE VIIa

Analysis of Limited Construction with Resultant Reserves with Present Tax Rates, $30 Basic Water Charge and $65 Treated Water Charge

Construct Only Mountain View Turnout

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100) NW Zone	C Zone	E Zone	Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
1971-72	$0.0500	$0.0200	$30.00	0	0	0	$35.00	$+487,000
1972-73	0.0500	0.0200	30.00	0	0	0	35.00	+885,000
1973-74	0.0500	0.0200	30.00	0	0	0	35.00	+1,314,000
1974-75	0.0500	0.0200	30.00	0	0	0	35.00	+2,112,000
1975-76	0.0500	0.0200	30.00	0	0	0	35.00	+3,219,000
5-Year Average	$0.0500	$0.0200	$30.00	0	0	0	$35.00	

* Either groundwater charge or raw water component of total treated water charge.

TABLE VIIb

Analysis of Limited Construction
with Resultant Reserves,
with Present Tax Rates, $30 Basic Water Charge,
and $65 Treated Water Charge

Construct Only Mountain View Turnout, Penitencia Water Treatment Plant and Evergreen Pipeline and Reservoir

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0500	$0.0200	$30.00	0	0	0	$35.00	$+487,000
1972-73	0.0500	0.0200	30.00	0	0	0	35.00	+683,000
1973-74	0.0500	0.0200	30.00	0	0	0	35.00	+168,000
1974-75	0.0500	0.0200	30.00	0	0	0	35.00	+ 6,000
1975-76	0.0500	0.0200	30.00	0	0	0	35.00	+100,000
5-Year Average	$0.0500	$0.0200	$30.00	0	0	0	$35.00	

* Either groundwater charge or raw water component of total treated water charge.

TABLE VIIc

Analysis of Limited Construction with Resultant Reserves, with Present Tax Rates, $30 Basic Water Charge and $65 Treated Water Charge

Construct Only Mountain View Turnout, Penitencia Water Treatment Plant, Evergreen Pipeline and Reservoir and Milpitas Pipeline

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100) NW Zone	C Zone	E Zone	Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
1971-72	$0.0500	$0.0200	$30.00	0	0	0	$35.00	$+487,000
1972-73	0.0500	0.0200	30.00	0	0	0	35.00	+683,000
1973-74	0.0500	0.0200	30.00	0	0	0	35.00	+136,000
1974-75	0.0500	0.0200	30.00	0	0	0	35.00	- 61,000
1975-76	0.0500	0.0200	30.00	0	0	0	35.00	+ 32,000
5-Year Average	$0.0500	$0.0200	$30.00	0	0	0	$35.00	

* Either groundwater charge or raw water component of total treated water charge.

TABLE VIII

Proposed Pricing Policy
Treated Water Surcharge
Reduces Basic Water Charge

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0642	$0.0515	$24.41	$0.0008	$0.0031	$0.0044	$20.00	
1972-73	0.0662	0.0555	25.70	0.0008	0.0022	0.0040	20.00	
1973-74	0.0633	0.0623	27.79	0.0006	0.0017	0.0032	20.00	
1974-75	0.0615	0.0515	30.01	0.0006	0.0017	0.0031	20.00	
1975-76	0.0585	0.0437	33.91	0.0007	0.0016	0.0015	20.00	
5-Year Average	$0.0626	$0.0528	$28.57	$0.0007	$0.0020	$0.0031	$20.00	

* Either groundwater charge or raw water component of total treated water charge.

TABLE IX

Proposed Pricing Policy
Treated Water Surcharge
Reduces Service Area Tax

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0642	$0.0252	$27.94	$0.0008	$0.0031	$0.0044	$20.00	
1972-73	0.0662	0.0265	29.46	0.0008	0.0022	0.0040	20.00	
1973-74	0.0633	0.0287	32.20	0.0006	0.0017	0.0032	20.00	
1974-75	0.0615	0.0141	35.01	0.0006	0.0017	0.0031	20.00	
1975-76	0.0585	0.0035	39.28	0.0007	0.0016	0.0015	20.00	
5-Year Average	$0.0626	$0.0191	$33.00	$0.0007	$0.0020	$0.0031	$20.00	

* Either groundwater charge or raw water component of total treated water charge.

TABLE X

Proposed Pricing Policy
Basic Water Charge Set at
Present Legal Limit Generating
a Construction Reserve

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Cumulative Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0642	$0.0515	$30.00	$0.0008	$0.0031	$0.0044	$20.00	+$974,820
1972-73	0.0662	0.0555	30.00	0.0008	0.0022	0.0040	20.00	+1,776,380
1973-74	0.0633	0.0623	30.00	0.0006	0.0017	0.0032	20.00	+2,205,960
1974-75	0.0615	0.0515	30.00	0.0006	0.0017	0.0031	20.00	+2,191,600
1975-76	0.0585	0.0437	30.00	0.0007	0.0016	0.0015	20.00	+1,372,180
5-Year Average	$0.0626	$0.0528	$30.00	$0.0007	$0.0020	$0.0031	$20.00	

* Either groundwater charge or raw water component of total treated water charge.

TABLE XIa

Proposed Pricing Policy
with Basic Water Charge at $29.
Treated Water Surcharge of $35 Reduces Service Area Tax

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Annual Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0642	$0.0000	$29.00	$0.0008	$0.0031	$0.0044	$35.00	$62,258
1972-73	0.0662	0.0083	29.00	0.0008	0.0022	0.0040	35.00	0
1973-74	0.0633	0.0277	29.00	0.0006	0.0017	0.0032	35.00	0
1974-75	0.0615	0.0316	29.00	0.0006	0.0017	0.0031	35.00	0
1975-76	0.0585	0.0511	29.00	0.0007	0.0016	0.0015	35.00	0
5-Year Average	$0.0626	$0.0243	$29.00	$0.0007	$0.0020	$0.0031	$35.00	0

* Either groundwater charge or raw water component of total treated water charge.

TABLE XIb

Proposed Pricing Policy with Basic Water Charge at $30. Treated Water Surcharge of $35 Reduces Service Area Tax

	County-Wide Tax Rate ($/$100)	Service Area Tax Rate ($/$100)	Basic Water Charge* ($/A.F.)	Flood Control Zone Tax Rates ($/$100)			Treated Water Surcharge ($/A.F.)	Annual Construction Reserve
				NW Zone	C Zone	E Zone		
1971-72	$0.0642	$0.0000	$30.00	$0.0008	$0.0031	$0.0044	$35.00	$238,310
1972-73	0.0662	0.0007	30.00	0.0008	0.0022	0.0040	35.00	0
1973-74	0.0633	0.0201	30.00	0.0006	0.0017	0.0032	35.00	0
1974-75	0.0615	0.0240	30.00	0.0006	0.0017	0.0031	35.00	0
1975-76	0.0585	0.0435	30.00	0.0007	0.0016	0.0015	35.00	0
5-Year Average	$0.0626	$0.0167	$30.00	$0.0007	$0.0020	$0.0031	$35.00	0

* Either groundwater charge or raw water component of total treated water charge.

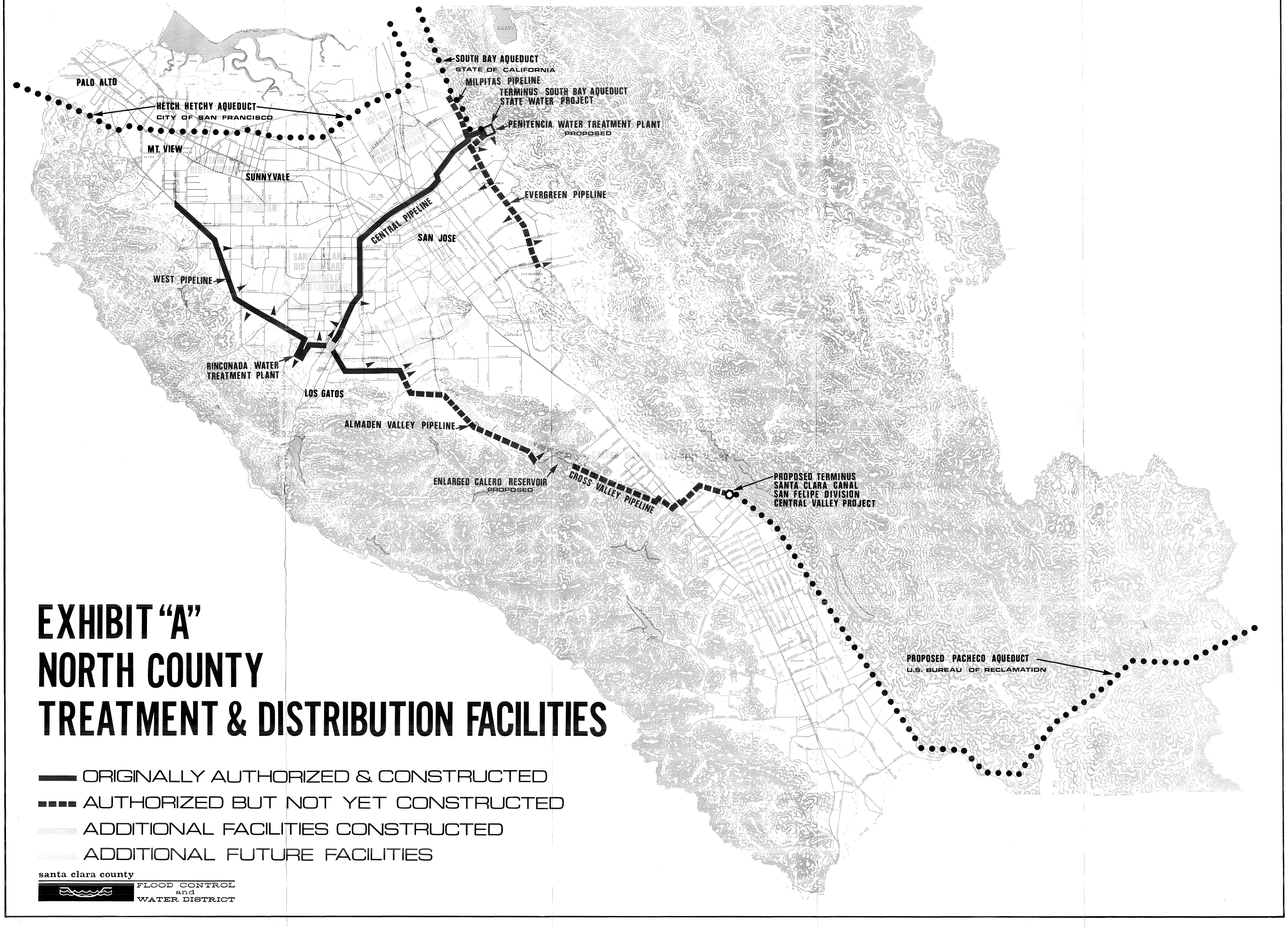

EXHIBIT "A"
NORTH COUNTY
TREATMENT & DISTRIBUTION FACILITIES

▬ ORIGINALLY AUTHORIZED & CONSTRUCTED
▪▪▪ AUTHORIZED BUT NOT YET CONSTRUCTED
▭ ADDITIONAL FACILITIES CONSTRUCTED
⋯ ADDITIONAL FUTURE FACILITIES

santa clara county
FLOOD CONTROL
and
WATER DISTRICT

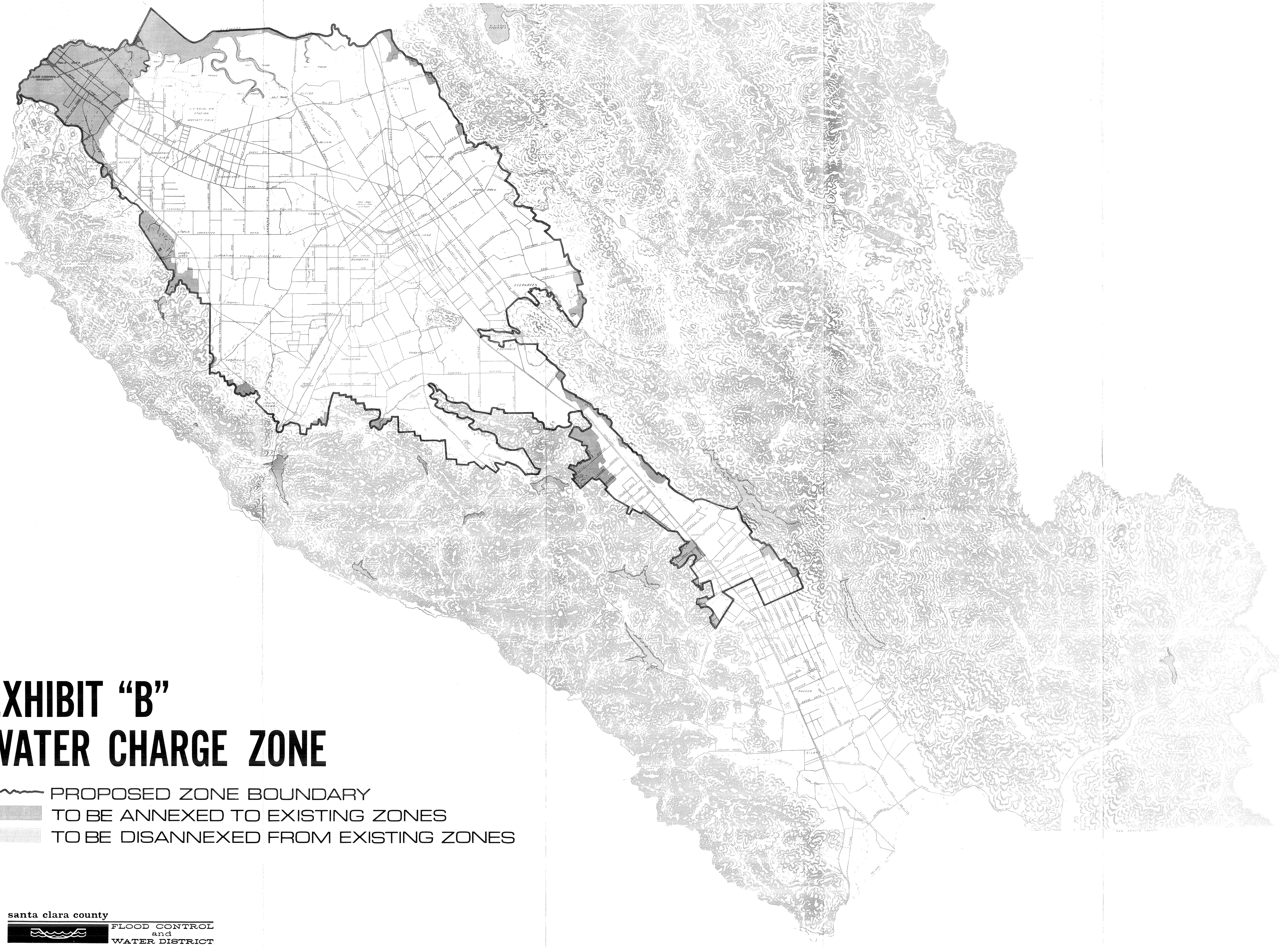

EXHIBIT "B"
WATER CHARGE ZONE

PROPOSED ZONE BOUNDARY

▨ TO BE ANNEXED TO EXISTING ZONES

░ TO BE DISANNEXED FROM EXISTING ZONES

santa clara county
FLOOD CONTROL
and
WATER DISTRICT

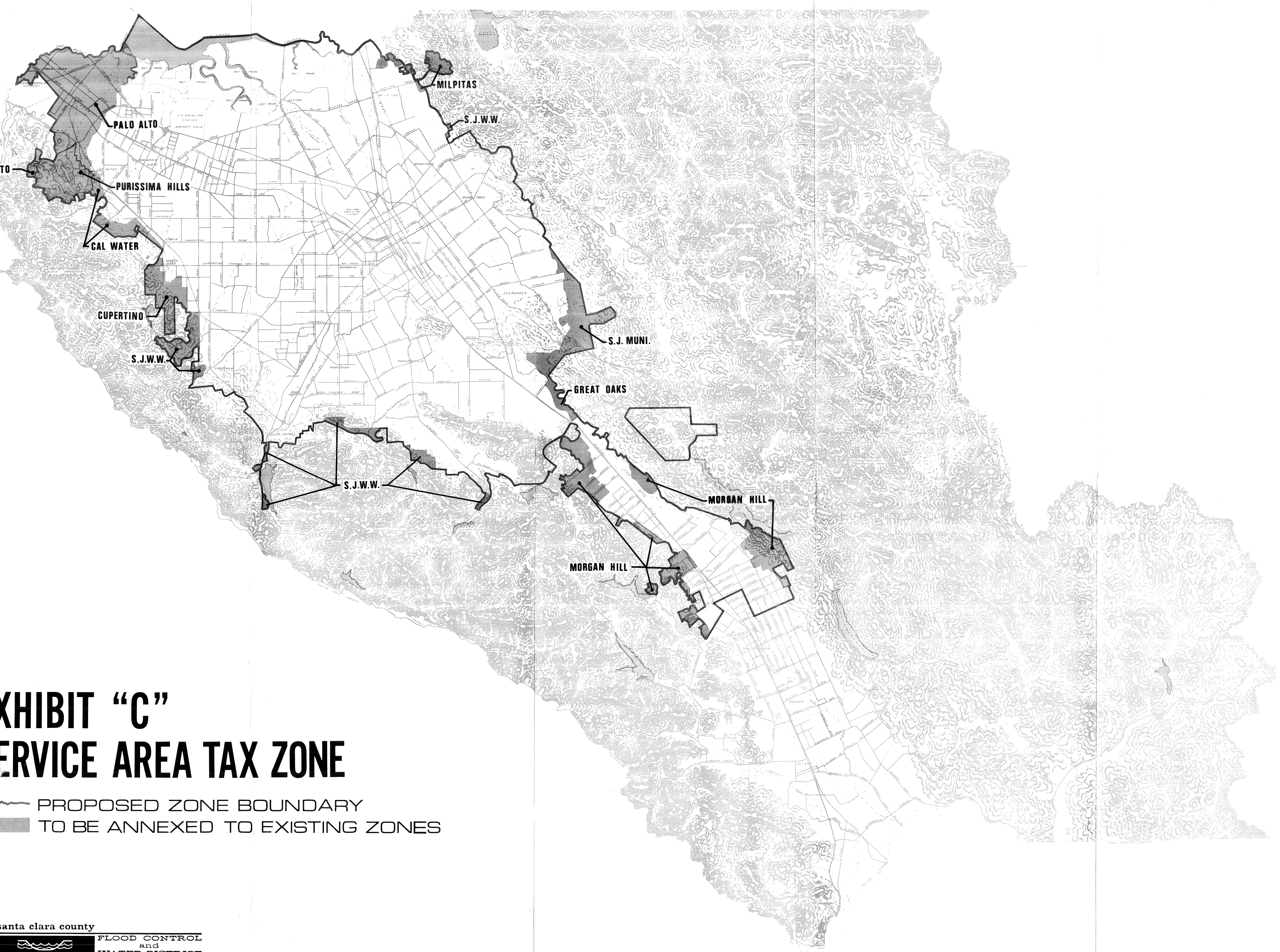

EXHIBIT "C"
SERVICE AREA TAX ZONE

〰 PROPOSED ZONE BOUNDARY

▨ TO BE ANNEXED TO EXISTING ZONES

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FLOOD CONTROL
and
WATER DISTRICT